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(71) Applicant  
**Martin Dearsley**  
8 Church Street, Silverstone, Northampton,  
NN12 8XA, United Kingdom

(72) Inventor  
**Martin Dearsley**

(74) Agent and/or Address for Service  
**Martin Dearsley**  
8 Church Street, Silverstone, Northampton,  
NN12 8XA, United Kingdom

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B64C 23/00, B62J 17/00, B62K 19/02

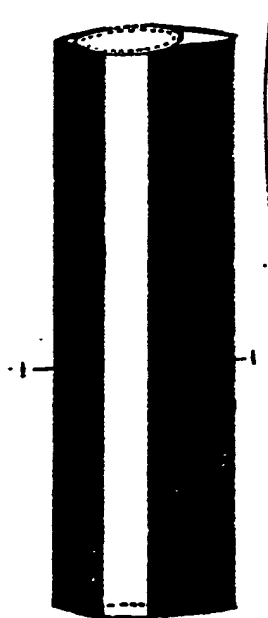
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GB 0365300 A

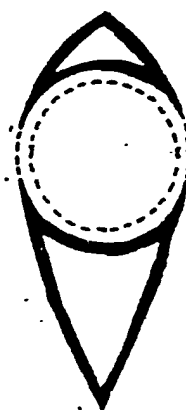
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(54) Removable flexible aerofoil section

(57) An aerofoil section e.g. on exposed tubing on a hang glider or pedal cycle has a body 1 which is removable so that it can be replaced on a repaired construction and is flexible in order that under adverse loads will not deform or fracture.



SIDE ELEVATION



END ELEVATION

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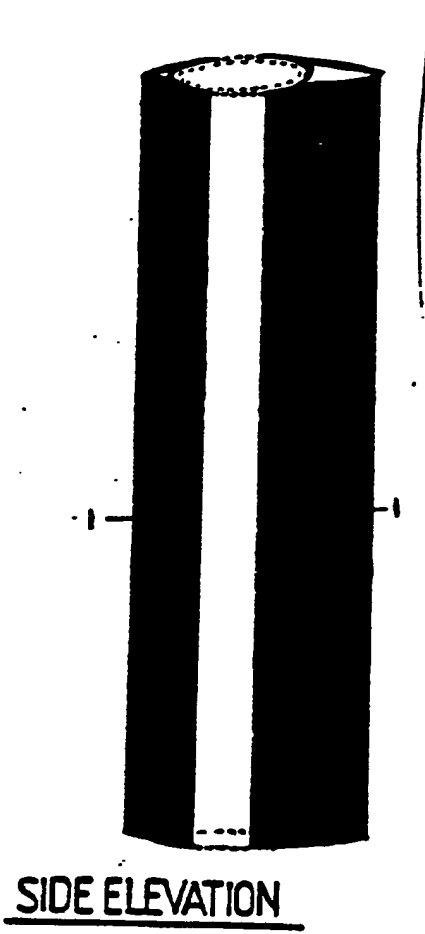


FIG 1

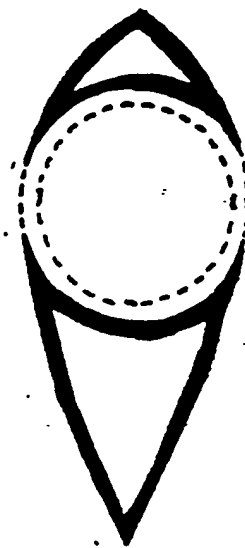


FIG 2

END ELEVATION

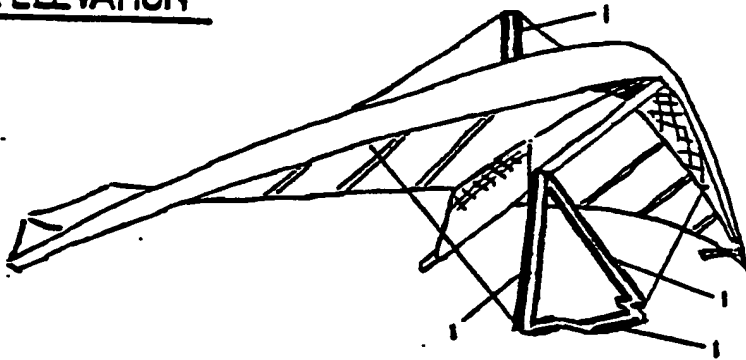


FIG 3

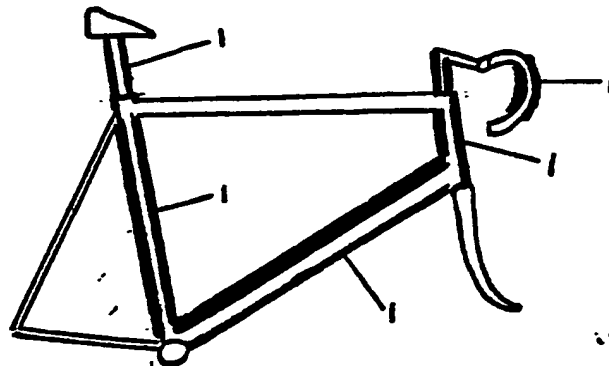


FIG 4

**REMOVABLE FLEXIBLE AEROFOIL SECTION**

Constructions subjected to low speed airflow are subject of parasitic drag which can be reduced by creating a classical peardrop aerofoil shape around the existing construction. Particularly in the use of class one flex wings (hang gliders), microlights and pedal cycle frames and accessories. Solid aerofoil sections however, are heavier than spherical tube sections have low lateral strength capabilities but are excessively strong in frontal loads which can cause unnecessary injury or discomfort e.g., when a pilot collides with the structure under heavy landing conditions in the case of the hang glider and when a rider is forced to carry the cycle manually in the case of a cyclocross competition.

According to the present invention there is provided a flexible aerofoil section comprising of two separate hollow sections which may be formed by way of extrusion, moulding, or other suitable profiling technique which when mounted on an existing tubular construction creates classical peardrop aerofoil shape which can be removed or added as required.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawing in which:-

Figure 1 - shows in perspective, the sections in position on an existing tubular construction.

Figure 2 - shows the separation of the sections from the construction.

Figure 3 - shows the mounting of the sections on the exposed tubing on a hang glider.

Figure 4 - shows the mounting of the sections on the exposed tubing on a pedal cycle.

Referring to the drawing the sections comprise of a flexible extruded or moulded material secured to the existing construction by, for example, glue, ties or similar means (not shown).

In order to attach the section(s) to the existing tubing it is placed at a predetermined angle in order that the greatest efficiency is gained when exposed to the primary airflow in which reduction in drag is required. It is then fixed by the means previously explained.

In order to remove in the case of breakage of the main structure to which the section(s) have been attached the ties or bonding methods are released.

CLAIMS

1. An aerofoil section comprising of two separate sections which can be added in part or in whole to an existing tubular construction in order to reduce parasitic drag.
2. A removable aerofoil section as claimed in 1 where the material of construction is flexible which allows it to recover from severe bending or compression moments without damage.
3. A removable flexible aerofoil section as claimed in 1 and 2 when attached to the exposed tubing on a hang glider.
4. A removable flexible aerofoil section as claimed in 1 and 2 when attached to the exposed tubing on a microlight.
5. A removable flexible aerofoil section as claimed in 1 and 2 when attached to the frame or accessories on a pedal cycle.